

Month/year	Gas price (unadjusted)	Gas price (adjusted, 2012 dollars)	Production (thousands of barrels)	Production (thousands of barrels, 12- month running total)	Sales (thousands of gallons)
January 1976	\$0.61	\$2.48	255,185		
February 1976	\$0.60	\$2.45	238,705		
March 1976	\$0.59	\$2.42	255,198		
April 1976	\$0.59	\$2.40	242,310		
May 1976	\$0.60	\$2.43	251,860		
June 1976	\$0.62	\$2.48	242,833		
July 1976	\$0.62	\$2.49	251,942		
August 1976	\$0.63	\$2.50	251,429		
September 1976	\$0.63	\$2.50	244,489		
October 1976	\$0.63	\$2.48	249,962		
November 1976	\$0.63	\$2.47	242,388		
December 1976	\$0.63	\$2.44	249,879	2,976,180	
January 1977	\$0.63	\$2.43	243,478	2,964,473	
February 1977	\$0.64	\$2.45	227,890	2,953,658	
March 1977	\$0.64	\$2.46	250,778	2,949,238	
April 1977	\$0.65	\$2.48	244,347	2,951,275	
May 1977	\$0.66	\$2.50	250,317	2,949,732	
June 1977	\$0.67	\$2.51	243,058	2,949,957	
July 1977	\$0.67	\$2.50	251,244	2,949,259	
August 1977	\$0.67	\$2.49	257,510	2,955,340	
September 1977	\$0.67	\$2.48	254,392	2,965,243	
October 1977	\$0.67	\$2.46	265,776	2,981,057	
November 1977	\$0.66	\$2.44	257,378	2,996,047	
December 1977	\$0.67	\$2.43	263,097	3,009,265	
January 1978	\$0.65	\$2.36	259,150	3,024,937	
February 1978	\$0.65	\$2.34	234,544	3,031,591	
March 1978	\$0.65	\$2.33	270,324	3,051,137	
April 1978	\$0.65	\$2.31	264,526	3,071,316	
May 1978	\$0.66	\$2.32	273,583	3,094,582	
June 1978	\$0.66	\$2.33	264,974	3,116,498	
July 1978	\$0.67	\$2.35	271,442	3,136,696	
August 1978	\$0.68	\$2.36	271,502	3,150,688	
September 1978	\$0.69	\$2.36	264,010	3,160,306	
October 1978	\$0.69	\$2.35	273,420	3,167,950	
November 1978	\$0.70	\$2.35	262,233	3,172,805	
December 1978	\$0.71	\$2.36	268,508	3,178,216	
January 1979	\$0.72	\$2.38	262,716	3,181,782	
February 1979	\$0.73	\$2.41	238,710	3,185,948	
March 1979	\$0.76	\$2.47	266,635	3,182,259	
April 1979	\$0.80	\$2.59	256,593	3,174,326	
May 1979	\$0.84	\$2.70	266,631	3,167,374	
June 1979	\$0.90	\$2.85	252,949	3,155,349	
July 1979	\$0.95	\$2.97	259,278	3,143,185	
August 1979	\$0.99	\$3.06	264,981	3,136,664	
September 1979	\$1.02	\$3.12	255,693	3,128,347	

October 1979	\$1.03	\$3.12	267,256	3,122,183	
November 1979	\$1.04	\$3.12	262,818	3,122,768	
December 1979	\$1.07	\$3.16	267,050	3,121,310	
January 1980	\$1.13	\$3.30	268,940	3,127,534	
February 1980	\$1.21	\$3.48	252,431	3,141,255	
March 1980	\$1.25	\$3.57	269,650	3,144,270	
April 1980	\$1.26	\$3.56	260,541	3,148,218	
May 1980	\$1.27	\$3.53	267,684	3,149,271	
June 1980	\$1.27	\$3.51	256,619	3,152,941	
July 1980	\$1.27	\$3.51	264,964	3,158,627	
August 1980	\$1.27	\$3.47	260,841	3,154,487	
September 1980	\$1.26	\$3.42	258,577	3,157,371	
October 1980	\$1.25	\$3.36	264,489	3,154,604	
November 1980	\$1.25	\$3.33	254,852	3,146,638	
December 1980	\$1.26	\$3.32	266,777	3,146,365	
January 1981	\$1.30	\$3.39	264,736	3,142,161	
February 1981	\$1.38	\$3.58	240,914	3,130,644	
March 1981	\$1.42	\$3.65	267,003	3,127,997	
April 1981	\$1.41	\$3.62	256,708	3,124,164	
May 1981	\$1.40	\$3.56	263,541	3,120,021	
June 1981	\$1.39	\$3.51	258,859	3,122,261	
July 1981	\$1.38	\$3.44	263,498	3,120,795	
August 1981	\$1.38	\$3.40	266,069	3,126,023	
September 1981	\$1.38	\$3.38	258,120	3,125,566	
October 1981	\$1.37	\$3.35	265,450	3,126,527	
November 1981	\$1.37	\$3.33	257,579	3,129,254	
December 1981	\$1.37	\$3.31	266,147	3,128,624	
January 1982	\$1.31	\$3.18	263,793	3,127,681	
February 1982	\$1.29	\$3.11	243,661	3,130,428	
March 1982	\$1.25	\$3.00	268,687	3,132,112	
April 1982	\$1.20	\$2.86	257,738	3,133,142	
May 1982	\$1.21	\$2.87	269,186	3,138,787	
June 1982	\$1.28	\$3.02	259,383	3,139,311	
July 1982	\$1.30	\$3.04	268,398	3,144,211	
August 1982	\$1.29	\$3.01	267,643	3,145,785	
September 1982	\$1.27	\$2.96	261,028	3,148,693	
October 1982	\$1.26	\$2.93	269,745	3,152,988	
November 1982	\$1.24	\$2.89	260,918	3,156,327	
December 1982	\$1.21	\$2.82	266,535	3,156,715	
January 1983	\$1.18	\$2.76	269,604	3,162,526	46,218
February 1983	\$1.14	\$2.66	245,237	3,164,102	48,906
March 1983	\$1.12	\$2.59	269,706	3,165,121	54,112
April 1983	\$1.19	\$2.74	263,269	3,170,652	49,094
May 1983	\$1.23	\$2.83	267,575	3,169,041	52,021
June 1983	\$1.24	\$2.85	260,014	3,169,672	52,517
July 1983	\$1.25	\$2.86	267,717	3,168,991	51,898
August 1983	\$1.25	\$2.85	269,053	3,170,401	51,906

September 1983	\$1.24	\$2.81	263,530	3,172,903	52,676
October 1983	\$1.22	\$2.76	271,890	3,175,048	50,724
November 1983	\$1.20	\$2.71	263,111	3,177,241	51,151
December 1983	\$1.18	\$2.66	260,293	3,170,999	51,879
January 1984	\$1.17	\$2.62	274,902	3,176,297	54,149
February 1984	\$1.17	\$2.60	257,357	3,188,417	55,652
March 1984	\$1.17	\$2.60	268,829	3,187,540	57,636
April 1984	\$1.20	\$2.65	265,872	3,190,143	56,937
May 1984	\$1.21	\$2.66	277,616	3,200,184	58,756
June 1984	\$1.20	\$2.63	265,570	3,205,740	60,075
July 1984	\$1.18	\$2.58	275,432	3,213,455	59,056
August 1984	\$1.16	\$2.54	273,091	3,217,493	59,378
September 1984	\$1.17	\$2.54	269,798	3,223,761	56,947
October 1984	\$1.17	\$2.55	276,075	3,227,946	57,387
November 1984	\$1.17	\$2.53	269,357	3,234,192	58,075
December 1984	\$1.15	\$2.48	275,797	3,249,696	56,766
January 1985	\$1.10	\$2.37	270,926	3,245,720	54,584
February 1985	\$1.09	\$2.34	252,695	3,241,058	53,830
March 1985	\$1.12	\$2.40	281,943	3,254,172	57,298
April 1985	\$1.18	\$2.51	271,299	3,259,599	59,075
May 1985	\$1.20	\$2.56	283,093	3,265,076	57,564
June 1985	\$1.21	\$2.56	270,653	3,270,159	58,832
July 1985	\$1.21	\$2.56	277,410	3,272,137	58,563
August 1985	\$1.20	\$2.53	272,881	3,271,927	58,096
September 1985	\$1.18	\$2.49	268,610	3,270,739	56,979
October 1985	\$1.17	\$2.45	278,068	3,272,732	56,949
November 1985	\$1.17	\$2.44	267,059	3,270,434	58,101
December 1985	\$1.16	\$2.43	279,916	3,274,553	60,296
January 1986	\$1.15	\$2.39	283,248	3,286,875	55,283
February 1986	\$1.08	\$2.24	256,855	3,291,035	58,546
March 1986	\$0.94	\$1.97	279,413	3,288,505	61,250
April 1986	\$0.86	\$1.80	265,917	3,283,123	62,629
May 1986	\$0.89	\$1.87	273,964	3,273,994	65,579
June 1986	\$0.92	\$1.93	258,700	3,262,041	63,294
July 1986	\$0.85	\$1.78	268,448	3,253,079	62,862
August 1986	\$0.81	\$1.68	259,580	3,239,778	61,342
September 1986	\$0.82	\$1.71	249,843	3,221,011	60,342
October 1986	\$0.79	\$1.64	260,984	3,203,927	60,946
November 1986	\$0.78	\$1.61	252,374	3,189,242	61,880
December 1986	\$0.78	\$1.60	258,926	3,168,252	62,290
January 1987	\$0.82	\$1.67	262,888	3,147,892	56,489
February 1987	\$0.86	\$1.76	234,880	3,125,917	60,641
March 1987	\$0.87	\$1.78	262,398	3,108,902	61,627
April 1987	\$0.91	\$1.83	254,945	3,097,930	61,734
May 1987	\$0.91	\$1.84	258,426	3,082,392	61,750
June 1987	\$0.92	\$1.86	248,356	3,072,048	64,315
July 1987	\$0.94	\$1.87	255,782	3,059,382	62,405

August 1987	\$0.96	\$1.92	254,508	3,054,310	62,644
September 1987	\$0.95	\$1.90	246,163	3,050,630	59,339
October 1987	\$0.94	\$1.86	259,272	3,048,918	60,708
November 1987	\$0.93	\$1.85	251,915	3,048,459	58,877
December 1987	\$0.91	\$1.80	257,844	3,047,377	61,720
January 1988	\$0.89	\$1.75	255,743	3,040,232	57,041
February 1988	\$0.87	\$1.71	242,848	3,048,200	59,900
March 1988	\$0.87	\$1.70	259,587	3,045,389	61,578
April 1988	\$0.90	\$1.76	248,629	3,039,073	61,584
May 1988	\$0.93	\$1.79	255,089	3,035,736	60,701
June 1988	\$0.92	\$1.78	245,102	3,032,482	62,884
July 1988	\$0.93	\$1.79	249,229	3,025,929	61,873
August 1988	\$0.95	\$1.83	250,459	3,021,880	62,450
September 1988	\$0.94	\$1.79	236,847	3,012,564	61,036
October 1988	\$0.92	\$1.75	248,704	3,001,996	60,385
November 1988	\$0.91	\$1.72	240,700	2,990,781	59,783
December 1988	\$0.88	\$1.67	246,189	2,979,126	63,100
January 1989	\$0.87	\$1.64	246,056	2,969,439	55,557
February 1989	\$0.88	\$1.66	218,076	2,944,667	58,493
March 1989	\$0.90	\$1.68	234,822	2,919,902	60,500
April 1989	\$1.04	\$1.92	233,147	2,904,420	60,242
May 1989	\$1.09	\$2.01	242,303	2,891,634	62,089
June 1989	\$1.08	\$1.99	228,731	2,875,263	63,521
July 1989	\$1.06	\$1.94	230,766	2,856,800	62,335
August 1989	\$1.02	\$1.87	233,878	2,840,219	63,362
September 1989	\$0.99	\$1.81	226,436	2,829,808	61,923
October 1989	\$0.99	\$1.80	231,036	2,812,140	61,974
November 1989	\$0.96	\$1.74	226,082	2,797,522	61,339
December 1989	\$0.93	\$1.68	227,439	2,778,772	63,182
January 1990	\$1.00	\$1.78	233,931	2,766,647	58,138
February 1990	\$0.99	\$1.77	209,923	2,758,494	57,909
March 1990	\$0.99	\$1.75	230,434	2,754,106	59,847
April 1990	\$1.02	\$1.80	222,215	2,743,174	59,601
May 1990	\$1.03	\$1.82	227,179	2,728,050	60,572
June 1990	\$1.06	\$1.85	213,175	2,712,494	63,109
July 1990	\$1.05	\$1.83	222,371	2,704,099	61,531
August 1990	\$1.16	\$2.01	225,886	2,696,107	63,182
September 1990	\$1.26	\$2.17	216,715	2,686,386	60,912
October 1990	\$1.34	\$2.30	233,799	2,689,149	60,295
November 1990	\$1.34	\$2.28	221,598	2,684,665	60,551
December 1990	\$1.31	\$2.22	227,463	2,684,689	58,382
January 1991	\$1.18	\$2.00	232,498	2,683,256	56,925
February 1991	\$1.09	\$1.85	213,836	2,687,169	59,385
March 1991	\$1.04	\$1.76	233,926	2,690,661	61,554
April 1991	\$1.08	\$1.81	225,256	2,693,702	61,982
May 1991	\$1.13	\$1.89	229,670	2,696,193	62,245
June 1991	\$1.13	\$1.89	219,610	2,702,628	63,319

July 1991	\$1.10	\$1.83	227,756	2,708,013	62,601
August 1991	\$1.11	\$1.86	226,801	2,708,928	62,534
September 1991	\$1.11	\$1.85	221,029	2,713,242	60,346
October 1991	\$1.09	\$1.81	230,557	2,710,000	61,181
November 1991	\$1.10	\$1.82	219,833	2,708,235	60,443
December 1991	\$1.08	\$1.78	226,267	2,707,039	61,522
January 1992	\$1.02	\$1.69	228,178	2,702,719	56,411
February 1992	\$1.01	\$1.65	214,269	2,703,152	58,309
March 1992	\$1.01	\$1.66	227,798	2,697,024	59,640
April 1992	\$1.05	\$1.72	218,775	2,690,543	59,980
May 1992	\$1.11	\$1.81	222,227	2,683,100	59,615
June 1992	\$1.14	\$1.86	215,019	2,678,509	60,353
July 1992	\$1.14	\$1.85	221,064	2,671,817	60,400
August 1992	\$1.12	\$1.82	214,575	2,659,591	59,084
September 1992	\$1.12	\$1.81	210,904	2,649,466	58,579
October 1992	\$1.11	\$1.79	220,898	2,639,807	59,012
November 1992	\$1.11	\$1.78	210,724	2,630,698	56,878
December 1992	\$1.08	\$1.73	220,200	2,624,631	59,288
January 1993	\$1.06	\$1.70	215,791	2,612,244	53,827
February 1993	\$1.05	\$1.68	194,393	2,592,368	57,305
March 1993	\$1.05	\$1.67	216,198	2,580,768	57,625
April 1993	\$1.08	\$1.71	206,439	2,568,432	58,139
May 1993	\$1.10	\$1.74	212,255	2,558,460	57,466
June 1993	\$1.10	\$1.73	203,842	2,547,283	60,391
July 1993	\$1.08	\$1.70	207,339	2,533,558	58,808
August 1993	\$1.06	\$1.67	209,492	2,528,475	58,453
September 1993	\$1.05	\$1.65	201,347	2,518,918	57,462
October 1993	\$1.09	\$1.71	212,003	2,510,023	55,432
November 1993	\$1.07	\$1.67	207,349	2,506,648	55,744
December 1993	\$1.01	\$1.58	212,585	2,499,033	56,075
January 1994	\$1.00	\$1.56	211,320	2,494,562	51,534
February 1994	\$1.01	\$1.57	189,569	2,489,738	54,270
March 1994	\$1.01	\$1.56	209,114	2,482,654	55,364
April 1994	\$1.03	\$1.59	198,363	2,474,578	54,962
May 1994	\$1.05	\$1.62	207,334	2,469,657	55,523
June 1994	\$1.08	\$1.66	198,318	2,464,133	57,165
July 1994	\$1.11	\$1.70	201,527	2,458,321	55,835
August 1994	\$1.15	\$1.77	202,869	2,451,698	56,393
September 1994	\$1.14	\$1.75	198,264	2,448,615	54,993
October 1994	\$1.11	\$1.70	206,398	2,443,010	54,241
November 1994	\$1.12	\$1.70	198,850	2,434,511	54,480
December 1994	\$1.09	\$1.66	209,550	2,431,476	55,612
January 1995	\$1.08	\$1.64	207,148	2,427,304	51,200
February 1995	\$1.07	\$1.62	190,245	2,427,980	54,138
March 1995	\$1.07	\$1.62	204,613	2,423,479	55,592
April 1995	\$1.11	\$1.67	198,111	2,423,227	55,457
May 1995	\$1.18	\$1.77	205,509	2,421,402	56,242

June 1995	\$1.19	\$1.78	197,359	2,420,443	58,547
July 1995	\$1.15	\$1.72	199,912	2,418,828	56,944
August 1995	\$1.12	\$1.68	199,846	2,415,805	58,297
September 1995	\$1.11	\$1.65	192,484	2,410,025	56,581
October 1995	\$1.09	\$1.62	199,055	2,402,682	55,611
November 1995	\$1.06	\$1.58	197,559	2,401,391	55,907
December 1995	\$1.07	\$1.59	202,428	2,394,269	56,472
January 1996	\$1.09	\$1.61	201,354	2,388,475	53,040
February 1996	\$1.09	\$1.60	190,727	2,388,957	54,567
March 1996	\$1.14	\$1.67	203,715	2,388,059	56,388
April 1996	\$1.23	\$1.80	193,317	2,383,265	57,183
May 1996	\$1.28	\$1.87	198,208	2,375,964	57,796
June 1996	\$1.26	\$1.83	193,746	2,372,351	59,171
July 1996	\$1.23	\$1.78	196,471	2,368,910	58,910
August 1996	\$1.21	\$1.75	197,162	2,366,226	59,652
September 1996	\$1.20	\$1.74	194,456	2,368,198	57,845
October 1996	\$1.20	\$1.74	200,907	2,370,050	58,456
November 1996	\$1.23	\$1.77	194,268	2,366,759	58,101
December 1996	\$1.24	\$1.77	201,685	2,366,016	59,201
January 1997	\$1.24	\$1.77	198,466	2,363,128	54,441
February 1997	\$1.23	\$1.76	182,400	2,354,801	57,313
March 1997	\$1.21	\$1.72	200,013	2,351,099	58,444
April 1997	\$1.20	\$1.71	193,239	2,351,021	58,854
May 1997	\$1.20	\$1.71	200,702	2,353,515	57,840
June 1997	\$1.20	\$1.71	193,252	2,353,021	59,820
July 1997	\$1.17	\$1.67	198,691	2,355,241	65,294
August 1997	\$1.22	\$1.74	196,769	2,354,848	64,804
September 1997	\$1.23	\$1.74	194,575	2,354,967	63,680
October 1997	\$1.20	\$1.69	200,482	2,354,542	64,355
November 1997	\$1.17	\$1.65	193,778	2,354,052	62,253
December 1997	\$1.13	\$1.59	202,464	2,354,831	66,017
January 1998	\$1.09	\$1.53	202,756	2,359,121	59,906
February 1998	\$1.05	\$1.48	181,321	2,358,042	62,400
March 1998	\$1.02	\$1.43	198,639	2,356,668	64,534
April 1998	\$1.03	\$1.45	194,483	2,357,912	59,012
May 1998	\$1.06	\$1.49	196,754	2,353,964	59,510
June 1998	\$1.06	\$1.49	188,018	2,348,730	60,837
July 1998	\$1.06	\$1.48	192,026	2,342,065	67,183
August 1998	\$1.03	\$1.43	192,282	2,337,578	66,831
September 1998	\$1.01	\$1.41	173,676	2,316,679	65,147
October 1998	\$1.02	\$1.42	190,420	2,306,617	65,122
November 1998	\$1.00	\$1.38	184,198	2,297,037	63,847
December 1998	\$0.95	\$1.31	187,347	2,281,920	65,402
January 1999	\$0.94	\$1.30	184,864	2,264,028	60,254
February 1999	\$0.92	\$1.27	167,034	2,249,741	62,780
March 1999	\$0.98	\$1.36	182,362	2,233,464	63,320
April 1999	\$1.13	\$1.56	176,616	2,215,597	63,722

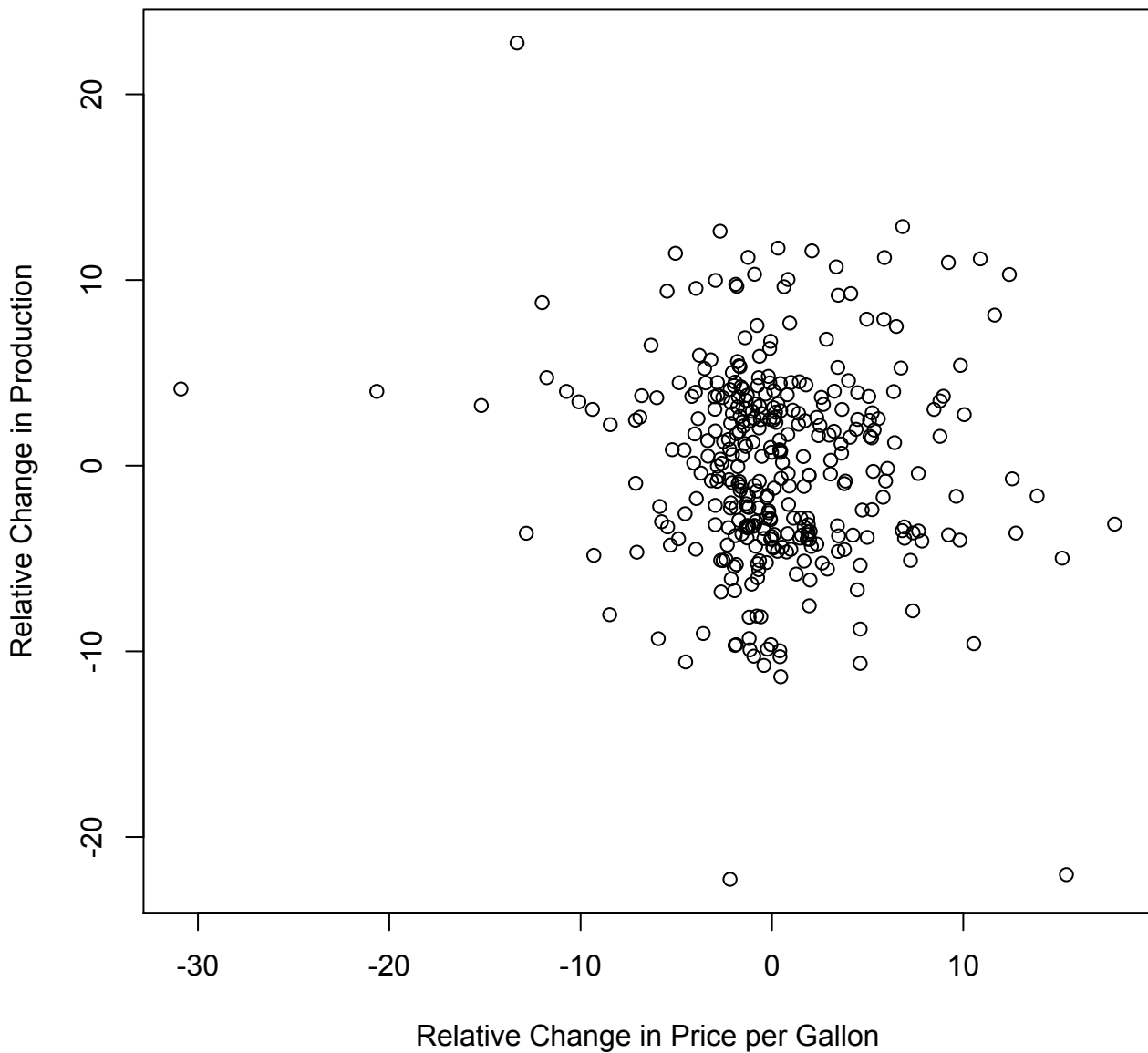
May 1999	\$1.13	\$1.55	182,122	2,200,965	63,465
June 1999	\$1.11	\$1.53	172,808	2,185,755	64,458
July 1999	\$1.16	\$1.58	179,738	2,173,467	62,670
August 1999	\$1.22	\$1.67	179,187	2,160,372	61,363
September 1999	\$1.26	\$1.71	174,113	2,160,809	59,265
October 1999	\$1.24	\$1.69	184,361	2,154,750	60,415
November 1999	\$1.25	\$1.69	178,811	2,149,363	59,078
December 1999	\$1.27	\$1.72	184,716	2,146,732	62,719
January 2000	\$1.29	\$1.73	179,316	2,141,184	54,421
February 2000	\$1.38	\$1.85	169,703	2,143,853	59,107
March 2000	\$1.52	\$2.03	183,464	2,144,955	60,573
April 2000	\$1.46	\$1.95	175,625	2,143,964	57,912
May 2000	\$1.49	\$1.98	181,242	2,143,084	60,300
June 2000	\$1.63	\$2.17	174,686	2,144,962	63,276
July 2000	\$1.55	\$2.05	177,920	2,143,144	62,278
August 2000	\$1.46	\$1.93	179,451	2,143,408	63,622
September 2000	\$1.55	\$2.04	172,731	2,142,026	63,098
October 2000	\$1.53	\$2.01	180,080	2,137,745	61,955
November 2000	\$1.52	\$1.99	174,980	2,133,914	62,185
December 2000	\$1.44	\$1.88	181,508	2,130,706	62,014
January 2001	\$1.45	\$1.88	179,767	2,131,157	58,140
February 2001	\$1.45	\$1.88	161,843	2,123,297	61,731
March 2001	\$1.41	\$1.82	182,290	2,122,123	62,860
April 2001	\$1.55	\$2.00	175,879	2,122,377	62,301
May 2001	\$1.70	\$2.19	180,712	2,121,847	62,879
June 2001	\$1.62	\$2.08	172,974	2,120,135	65,417
July 2001	\$1.42	\$1.82	178,208	2,120,423	62,534
August 2001	\$1.42	\$1.82	177,488	2,118,460	64,391
September 2001	\$1.52	\$1.95	171,270	2,116,999	62,214
October 2001	\$1.32	\$1.69	178,129	2,115,048	60,864
November 2001	\$1.17	\$1.50	176,441	2,116,509	60,025
December 2001	\$1.09	\$1.39	182,511	2,117,512	60,794
January 2002	\$1.11	\$1.42	181,275	2,119,020	60,212
February 2002	\$1.11	\$1.43	164,398	2,121,575	63,942
March 2002	\$1.25	\$1.60	182,387	2,121,672	62,829
April 2002	\$1.40	\$1.78	175,761	2,121,554	63,953
May 2002	\$1.39	\$1.77	183,635	2,124,477	64,537
June 2002	\$1.38	\$1.75	177,460	2,128,963	64,874
July 2002	\$1.40	\$1.77	178,879	2,129,634	64,594
August 2002	\$1.40	\$1.76	180,148	2,132,294	66,684
September 2002	\$1.40	\$1.77	162,342	2,123,366	62,352
October 2002	\$1.45	\$1.82	166,263	2,111,500	63,345
November 2002	\$1.42	\$1.78	167,899	2,102,958	63,256
December 2002	\$1.39	\$1.74	176,677	2,097,124	63,109
January 2003	\$1.46	\$1.82	179,328	2,095,177	60,248
February 2003	\$1.61	\$2.01	162,136	2,092,915	60,803
March 2003	\$1.69	\$2.10	180,314	2,090,842	60,816

April 2003	\$1.59	\$1.98	173,218	2,088,299	61,728
May 2003	\$1.50	\$1.87	177,733	2,082,397	66,316
June 2003	\$1.49	\$1.86	171,028	2,075,965	66,427
July 2003	\$1.51	\$1.87	171,316	2,068,402	66,803
August 2003	\$1.62	\$2.00	173,448	2,061,702	66,813
September 2003	\$1.68	\$2.07	170,504	2,069,864	63,949
October 2003	\$1.56	\$1.93	174,675	2,078,276	64,616
November 2003	\$1.51	\$1.86	166,815	2,077,192	63,778
December 2003	\$1.48	\$1.82	172,939	2,073,454	63,395
January 2004	\$1.57	\$1.93	172,680	2,066,806	57,144
February 2004	\$1.65	\$2.01	161,122	2,065,792	58,382
March 2004	\$1.74	\$2.12	173,832	2,059,310	59,186
April 2004	\$1.80	\$2.18	165,795	2,051,887	59,353
May 2004	\$1.98	\$2.40	171,988	2,046,142	58,566
June 2004	\$1.97	\$2.38	161,950	2,037,064	58,993
July 2004	\$1.91	\$2.31	169,188	2,034,936	59,012
August 2004	\$1.88	\$2.26	165,325	2,026,813	59,664
September 2004	\$1.87	\$2.25	151,868	2,008,177	57,327
October 2004	\$2.00	\$2.39	159,851	1,993,353	57,977
November 2004	\$1.98	\$2.36	161,884	1,988,422	57,018
December 2004	\$1.84	\$2.19	167,817	1,983,300	58,014
January 2005	\$1.83	\$2.18	168,679	1,979,299	54,939
February 2005	\$1.91	\$2.26	153,828	1,972,005	58,369
March 2005	\$2.08	\$2.46	173,637	1,971,810	58,330
April 2005	\$2.24	\$2.65	166,674	1,972,689	59,093
May 2005	\$2.16	\$2.55	172,997	1,973,698	59,475
June 2005	\$2.16	\$2.53	163,802	1,975,550	61,732
July 2005	\$2.29	\$2.67	162,444	1,968,806	61,109
August 2005	\$2.49	\$2.88	161,758	1,965,239	61,221
September 2005	\$2.90	\$3.36	126,119	1,939,490	57,867
October 2005	\$2.72	\$3.13	140,553	1,920,192	57,075
November 2005	\$2.26	\$2.59	145,100	1,903,408	59,095
December 2005	\$2.19	\$2.51	154,516	1,890,107	59,426
January 2006	\$2.32	\$2.65	158,283	1,879,711	56,532
February 2006	\$2.28	\$2.61	141,258	1,867,141	59,960
March 2006	\$2.42	\$2.77	156,392	1,849,896	59,860
April 2006	\$2.74	\$3.12	153,849	1,837,071	61,021
May 2006	\$2.91	\$3.29	159,992	1,824,066	60,234
June 2006	\$2.88	\$3.26	154,795	1,815,059	61,980
July 2006	\$2.98	\$3.35	158,151	1,810,766	61,446
August 2006	\$2.95	\$3.31	156,830	1,805,838	62,016
September 2006	\$2.56	\$2.87	151,120	1,830,839	59,783
October 2006	\$2.24	\$2.53	158,288	1,848,574	60,233
November 2006	\$2.23	\$2.51	153,142	1,856,616	58,860
December 2006	\$2.31	\$2.60	160,159	1,862,259	57,863
January 2007	\$2.24	\$2.51	158,820	1,862,796	54,698
February 2007	\$2.28	\$2.54	143,504	1,865,042	56,955



March 2007	\$2.56	\$2.85	158,282	1,866,932	57,279
April 2007	\$2.85	\$3.15	155,675	1,868,758	57,355
May 2007	\$3.15	\$3.47	161,112	1,869,878	58,720
June 2007	\$3.06	\$3.36	152,894	1,867,977	60,866
July 2007	\$2.96	\$3.26	155,750	1,865,576	58,807
August 2007	\$2.79	\$3.06	152,321	1,861,067	60,179
September 2007	\$2.80	\$3.07	146,511	1,856,458	57,913
October 2007	\$2.80	\$3.05	156,333	1,854,503	57,843
November 2007	\$3.08	\$3.34	150,506	1,851,867	56,579
December 2007	\$3.02	\$3.26	156,742	1,848,450	54,650
January 2008	\$3.04	\$3.27	158,086	1,847,716	53,994
February 2008	\$3.03	\$3.25	148,536	1,852,748	56,157
March 2008	\$3.24	\$3.46	159,671	1,854,137	55,495
April 2008	\$3.46	\$3.68	153,505	1,851,967	56,307
May 2008	\$3.77	\$3.99	158,154	1,849,009	56,391
June 2008	\$4.05	\$4.27	152,932	1,849,047	55,939
July 2008	\$4.06	\$4.23	159,113	1,852,410	54,803
August 2008	\$3.78	\$3.93	151,702	1,851,791	55,628
September 2008	\$3.70	\$3.87	117,899	1,823,179	53,406
October 2008	\$3.05	\$3.24	144,747	1,811,593	55,211
November 2008	\$2.15	\$2.29	150,720	1,811,807	54,081
December 2008	\$1.69	\$1.81	156,751	1,811,816	53,932
January 2009	\$1.79	\$1.92	159,764	1,813,494	51,109
February 2009	\$1.92	\$2.07	147,269	1,812,227	50,968
March 2009	\$1.96	\$2.10	162,040	1,814,596	51,298
April 2009	\$2.05	\$2.19	158,200	1,819,291	51,216
May 2009	\$2.27	\$2.42	166,749	1,827,886	50,957
June 2009	\$2.63	\$2.80	158,443	1,833,397	50,420
July 2009	\$2.53	\$2.68	167,469	1,841,753	49,678
August 2009	\$2.62	\$2.77	167,950	1,858,001	49,967
September 2009	\$2.55	\$2.70	166,398	1,906,500	48,670
October 2009	\$2.55	\$2.69	170,522	1,932,275	48,461
November 2009	\$2.65	\$2.79	162,807	1,944,362	47,454
December 2009	\$2.61	\$2.74	168,985	1,956,596	47,441
January 2010	\$2.72	\$2.85	167,589	1,964,421	44,012
February 2010	\$2.64	\$2.77	156,193	1,973,345	44,227
March 2010	\$2.77	\$2.91	170,670	1,981,975	45,482
April 2010	\$2.85	\$2.99	161,703	1,985,478	46,234
May 2010	\$2.84	\$2.98	167,083	1,985,812	46,016
June 2010	\$2.73	\$2.87	162,753	1,990,122	46,765
July 2010	\$2.73	\$2.86	163,926	1,986,579	45,755
August 2010	\$2.73	\$2.86	168,648	1,987,277	45,083
September 2010	\$2.71	\$2.82	169,563	1,990,442	43,876
October 2010	\$2.80	\$2.92	172,695	1,992,615	43,624
November 2010	\$2.86	\$2.97	166,583	1,996,391	42,857
December 2010	\$2.99	\$3.10	170,731	1,998,137	42,417
January 2011	\$3.09	\$3.19	169,959	2,000,507	40,331

February 2011	\$3.21	\$3.29	157,127	2,001,441	40,925
March 2011	\$3.56	\$3.64	174,629	2,005,400	41,608
April 2011	\$3.80	\$3.87	167,805	2,011,502	41,555
May 2011	\$3.91	\$3.97	173,978	2,018,397	41,173
June 2011	\$3.68	\$3.73	168,732	2,024,376	42,477
July 2011	\$3.65	\$3.69	173,918	2,034,368	42,448
August 2011	\$3.64	\$3.67	178,361	2,044,081	42,352
September 2011	\$3.61	\$3.64	169,235	2,043,753	41,973
October 2011	\$3.45	\$3.47	179,294	2,050,352	32,015
November 2011	\$3.38	\$3.40	175,268	2,059,037	30,972
December 2011	\$3.27	\$3.28	182,188	2,070,494	30,414
January 2012	\$3.38	\$3.39	178,343	2,078,878	
February 2012	\$3.58	\$3.58	168,287	2,090,038	



```

name: <unnamed>
log: C:\EIA Analysis\AP\\gasoline_analysis.smcl
log type: smcl
opened on: 20 Mar 2012, 12:08:23

```

```

1 .
2 . * First, we replicate the initial analysis sent to us from the SPSS output:
3 . * [1] regress oil_output on gas price:
4 . reg gas_real oil_output

```

Source	SS	df	MS	Number of obs = 432		
Model	.647394642	1	.647394642	F( 1, 430) = 1.63		
Residual	171.129111	430	.397974676	Prob > F = 0.2028		
				R-squared = 0.0038		
				Adj R-squared = 0.0015		
Total	171.776505	431	.398553377	Root MSE = .63085		

gas_real	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
oil_output	9.27e-07	7.27e-07	1.28	0.203	-5.02e-07	2.36e-06
_cons	2.13247	.1573028	13.56	0.000	1.823292	2.441648

```

5 . * [2] regress sales on gas price
6 . reg gas_real sales

```

Source	SS	df	MS	Number of obs = 348		
Model	42.1849414	1	42.1849414	F( 1, 346) = 174.79		
Residual	83.5074549	346	.241351026	Prob > F = 0.0000		
				R-squared = 0.3356		
				Adj R-squared = 0.3337		
Total	125.692396	347	.362225926	Root MSE = .49127		

gas_real	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sales	-.0000592	4.48e-06	-13.22	0.000	-.0000681	-.0000504
_cons	5.628761	.2605153	21.61	0.000	5.116369	6.141154

```

7 .
8 . * NEXT, we recommend replacing oil_output with:
9 . * Refinery & Blender Net Production (average monthly thousand barrels/day)
10 . * from: http://www.eia.gov/dnav/pet/pet_pnp_wprodrb_dcu_nus_w.htm
11 .
12 . * Before we estimate the regressions,
13 . * we test whether gas price Granger causes refinery_output
14 .
15 . * [1] Granger Causality test for gas price "causing" refinery_output:
16 . reg refinery_output L(1/3).gas_real L(1/3).refinery_output

```

Source	SS	df	MS	Number of obs = 350		
Model	293542132	6	48923688.6	F( 6, 343) = 1000.35		
Residual	16774982.2	343	48906.6537	Prob > F = 0.0000		
				R-squared = 0.9459		
				Adj R-squared = 0.9450		
Total	310317114	349	889160.785	Root MSE = 221.15		

refinery_output	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gas_real						
L1.	418.537	109.3025	3.83	0.000	203.5494	633.5246
L2.	-452.8312	187.3658	-2.42	0.016	-821.3618	-84.30049
L3.	50.32619	111.7048	0.45	0.653	-169.3865	270.0389
refinery_output						
L1.	.9456626	.0532585	17.76	0.000	.8409083	1.050417
L2.	-.1296164	.0724081	-1.79	0.074	-.2720363	.0128035
L3.	.1533463	.0524336	2.92	0.004	.0502145	.2564781
_cons	211.9666	100.4175	2.11	0.036	14.45497	409.4783

```
17 . test L1.gas_real L2.gas_real L3.gas_real
```

```
( 1) L.gas_real = 0
( 2) L2.gas_real = 0
( 3) L3.gas_real = 0
```

```
F( 3, 343) = 5.79
Prob > F = 0.0007
```

```
18 . * same test, different function:
```

```
19 . gcause refinery_output gas_real, lags(3)
Granger causality test
```

```
Sample: 83 to 432
obs = 350
```

```
H0: gas_real does not Granger-cause refinery_output
```

```
F( 3, 343) = 5.79
Prob > F = 0.0007
```

```
chi2(3) = 17.71 (asymptotic)
Prob > chi2 = 0.0005 (asymptotic)
```

```
20 . * We reject the null hypothesis that gas price does not Granger cause refinery_output
```

```
21 .
```

```
22 . * [2] Next, Granger Causality test for refinery_output "causing" gas price:
```

```
23 . reg gas_real L(1/3).refinery_output L(1/3).gas_real
```

Source	SS	df	MS	Number of obs =	350
Model	122.901906	6	20.4836509	F( 6, 343) =	1800.00
Residual	3.90327179	343	.011379801	Prob > F =	0.0000
				R-squared =	0.9692
				Adj R-squared =	0.9687
Total	126.805177	349	.363338617	Root MSE =	.10668

gas_real	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
refinery_output						
L1.	-.000033	.0000257	-1.28	0.200	-.0000835	.0000176
L2.	.0000476	.0000349	1.36	0.174	-.0000211	.0001163
L3.	-3.46e-06	.0000253	-0.14	0.891	-.0000532	.0000463
gas_real						
L1.	1.565816	.0527246	29.70	0.000	1.462112	1.669521
L2.	-.8181346	.0903803	-9.05	0.000	-.995904	-.6403652
L3.	.2216682	.0538834	4.11	0.000	.1156846	.3276518
_cons	-.0187071	.0484387	-0.39	0.700	-.1139815	.0765673

24 . test L1.refinery\_output L2.refinery\_output L3.refinery\_output

```
( 1) L.refinery_output = 0
( 2) L2.refinery_output = 0
( 3) L3.refinery_output = 0
```

F( 3, 343) = 1.79  
Prob > F = 0.1495

25 . \* same test, different function:

26 . gcause gas\_real refinery\_output, lags(3)  
Granger causality test

Sample: 83 to 432  
obs = 350

H0: refinery\_output does not Granger-cause gas\_real

F( 3, 343) = 1.79  
Prob > F = 0.1495

chi2(3) = 5.47 (asymptotic)  
Prob > chi2 = 0.1406 (asymptotic)

27 . \* We cannot reject the null hypothesis that refinery\_output does not Granger cause gas price

28 .

29 . \* Therefore, the evidence seems to suggest causality is in the direction gas\_price-->refinery\_output

30 .

31 .

32 . \* Now, try lagged models AND replace oil\_output with refinery\_output

33 . reg refinery\_output L(0/3).gas\_real L(1/3).refinery\_output

Source	SS	df	MS	Number of obs =	350
Model	293550032	7	41935718.8	F( 7, 342) =	855.37
Residual	16767082.5	342	49026.557	Prob > F	= 0.0000
				R-squared	= 0.9460
				Adj R-squared	= 0.9449
Total	310317114	349	889160.785	Root MSE	= 221.42

refinery_output	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
gas_real					
--.	-44.98747	112.0731	-0.40	0.688	-265.4268 175.4518
L1.	488.9791	206.813	2.36	0.019	82.19358 895.7647
L2.	-489.637	208.8043	-2.34	0.020	-900.3393 -78.93462
L3.	60.29848	114.5676	0.53	0.599	-165.0474 285.6443
refinery_output					
L1.	.9441796	.0534516	17.66	0.000	.8390444 1.049315
L2.	-.127474	.072693	-1.75	0.080	-.2704557 .0155077
L3.	.1531906	.0524992	2.92	0.004	.0499285 .2564526
_cons	211.1251	100.5624	2.10	0.037	13.32637 408.9237

34 .

35 .

```

36 . * Now, a lagged sales model
37 . reg sales L(0/3).gas_real

```

Source	SS	df	MS	Number of obs = 348		
Model	4.3079e+09	4	1.0770e+09	F( 4, 343) = 47.90		
Residual	7.7112e+09	343	22481508.1	Prob > F = 0.0000		
				R-squared = 0.3584		
				Adj R-squared = 0.3509		
Total	1.2019e+10	347	34636964.6	Root MSE = 4741.5		

sales	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gas_real						
--.	-4576.32	2381.446	-1.92	0.055	-9260.397	107.7573
L1.	722.7754	4403.749	0.16	0.870	-7938.977	9384.528
L2.	3353.107	4407.936	0.76	0.447	-5316.881	12023.09
L3.	-5569.705	2392.999	-2.33	0.021	-10276.5	-862.9053
_cons	71193.42	998.3574	71.31	0.000	69229.75	73157.1

```

38 . reg sales L(0/3).gas_real L(1/3).sales

```

Source	SS	df	MS	Number of obs = 345		
Model	1.0460e+10	7	1.4943e+09	F( 7, 337) = 379.04		
Residual	1.3286e+09	337	3942345.34	Prob > F = 0.0000		
				R-squared = 0.8873		
				Adj R-squared = 0.8850		
Total	1.1789e+10	344	34269300.6	Root MSE = 1985.5		

sales	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
gas_real						
--.	-126.5272	1019.022	-0.12	0.901	-2130.972	1877.918
L1.	-339.828	1859.918	-0.18	0.855	-3998.339	3318.683
L2.	1804.235	1856.35	0.97	0.332	-1847.258	5455.728
L3.	-1821.19	1010.343	-1.80	0.072	-3808.564	166.184
sales						
L1.	.6427348	.0537771	11.95	0.000	.5369538	.7485159
L2.	.2805565	.0627047	4.47	0.000	.1572146	.4038984
L3.	.0483929	.0555936	0.87	0.385	-.0609613	.1577471
_cons	2611.932	1837.927	1.42	0.156	-1003.323	6227.187

```

39 .
40 . capture log close

```